

Curriculum Vitae

SEBASTIAN W. HENSEL

Education

- 2008-2011:** PhD in Mathematics at the Rheinische Friedrich-Wilhelms-Universität Bonn (Thesis advisor: Ursula Hamenstädt).
- 2007-2008:** Diplom in Mathematics at the Rheinische Friedrich-Wilhelms-Universität Bonn (Thesis advisor: Ursula Hamenstädt).

Fellowships

- Postdoctoral Fellowship at the Mittag-Leffler Institute, January to May 2012
- Max-Planck IMPRS graduate fellowship 2008-2011
- Studienstiftung des Deutschen Volkes 2005-2008

Previous Employments

- Akademischer Rat (auf Zeit), Universität Bonn, 2015–2018.
- L.E. Dickson Instructor, University of Chicago, 2012–2015.

Publications

18. *(Un)distorted stabilisers in the handlebody group*, Journal of Topology, Volume 14, Issue 2, June 2021, pp. 460–487.
17. *The geometry of the handlebody groups II: Dehn functions*, with Ursula Hamenstädt, Michigan Math. J. 70(1), pp. 23-53 (March 2021).
16. *A Primer on Handlebody Groups*, Handbook of Group Actions (Vol. V), ALM 48, Ch.4, pp. 143–177
15. *The set of uniquely ergodic IETs is path-connected*, with Jon Chaika, Ergodic Theory and Dynamical Systems, Volume 39, Issue 2 February 2019, pp. 311-356.
14. *Rigidity and Flexibility for the handlebody group*, Commentarii Mathematici Helvetici, Volume 93, Issue 2, 2018, pp. 335–358.
13. *Exponential Torsion Growth for random 3-manifolds*, with Hyungryul Baik, David Bauer, Ilya Gekhtman, Ursula Hamenstädt, Thorben Kastenholz, Bram Petri, Daniel Valenzuela, 2016, arXiv:1607.00631, International Mathematics Research Notices, Vol. 2018, Issue 21, 2018, pp. 6497–6534
12. *Nielsen realisation for untwisted automorphisms of right-angled Artin groups*, with Dawid Kielak, Proceedings of the London Mathematical Society, Vol. 117, Issue 5, 2018, pp. 901–950.
11. *Stability in Outer Space*, with Ursula Hamenstädt, Groups, Geometry, and Dynamics, Vol. 12, Issue 1, 2018, pp. 359–398.
10. *Relative Nielsen Realisation by Gluing: Limit Groups and Free Products*, with Dawid Kielak. Michigan Journal of Mathematics, Vol. 67, Issue 1 (2018), pp.199–223.
9. *Moving homology classes in finite covers of graphs*, with Benson Farb. Israel Journal of Mathematics, Vol. 220, Issue 2 (2017), pp. 605–615

8. *Finite covers of graphs, their primitive homology, and representation theory*, with Benson Farb. New York Journal of Mathematics, Vol. 22 (2016), pp. 1365–1391
7. *1-slim triangles and uniform hyperbolicity for arc and curve graphs*, with Piotr Przytycki and Richard Webb. Journal of the European Mathematical Society, Volume 17, Issue 4 (2015), pp. 755–762.
6. *Spheres and projections for $\text{Out}(F_n)$* , with Ursula Hamenstädt, 2011. Journal of Topology 8 (2015), 65–92.
5. *Realisation and dismantlability*, with Damian Osajda and Piotr Przytycki. Geometry & Topology 18 (2014) 2079–2126.
4. *Isoperimetric inequalities for the handlebody groups*, with Ursula Hamenstädt. Transactions of the American Mathematical Society 365 (2013), 5313–5327.
3. *The geometry of the handlebody groups I: Distortion*, with Ursula Hamenstädt. Journal of Topology and Analysis, Volume 4, Issue 1 (2012).
2. *The ending lamination space of the five-punctured sphere is the Nöbeling curve* with Piotr Przytycki, J. London Math. Soc. 84(1) (2011), 103–119.
1. *Iterated grafting and holonomy lifts of Teichmüller space*. Geometria Dedicata, Volume 155, Number 1 (2011), 31–67.

Accepted for Publication

- *Quasi-morphisms on surface diffeomorphism groups*, with Jonathan Bowden and Richard Webb, to appear in the Journal of the American Mathematical Society
- *Handlebody Bundles and Polytopes* with Dawid Kielak, to appear in Algebraic & Geometric Topology.
- *Big mapping class groups acting on homology* with Federica Fanoni and Nick Vlamis, to appear in Indiana Univ. Math. J.

Preprints

- *Connectivity of the Gromov Boundary of the Free Factor Complex*, with Mladen Bestvina and Jon Chaika.
- *Rotation Sets and Actions on Curves*, with Jonathan Bowden, Kathryn Mann, Emmanuel Militon, and Richard Webb.
- *Strong Haken via Sphere Complexes*, with Jennifer Schultens.
- *Rigidity of the Torelli subgroup in $\text{Out}(F_N)$* , with Camille Horbez and Richard Wade
- *Path-connectivity of the set of uniquely ergodic and cobounded foliations* with Jon Chaika
- *Homological Approximations to the Handlebody Group*

Invited Conference Talks

DMV-Tagung 2019 (Geometry Section), “Groups with hyperbolic features” (ETH Zürich), GAGTA 2018 (Seoul), “Geometry of outer spaces and outer automorphism groups” (Warwick University), “Manifolds and Groups” (Regensburg), Sixth Ahlfors-Bers-Colloquium, GEAR Junior Retreat (Ann Arbor), Joint Mathematics Meetings 2014 (Special Session on Geometric Group Theory), Fifth Ahlfors-Bers Colloquium (Rice University)

Invited Seminar and Colloquium Talks

Austria: Wien, *Canada:* McGill, *Germany:* Augsburg, Bielefeld, Bonn (4 times), Heidelberg, Karlsruhe (2 times), Kiel, Regensburg (2 times), *Luxembourg:* Luxembourg, *Poland:* Warsaw, *Sweden:* Mittag-Leffler Institute, *UK:* Glasgow (2 times), Warwick, *USA:* Boston College, Caltech, Columbia, Chicago (4 times), Rice, UIC, Utah (4 times).